

PROJECT NUMBER: 1307  
PROJECT TITLE: Reconstituted Tobacco Development  
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PERIOD COVERED: June, 1989

I. IMPROVED SHEET PROPERTIES

A. Objective: Improve the physical characteristics and blend properties of reconstituted sheet materials.

B. Results:

1. ART Project - Pilot RL incorporating "wax layer" stems from the ART Pilot Plant (the top 2-3% of the stem bed) does not show appreciable subjective differences compared to RL containing the same level of total ART stems. There is increased mouthcoating, but bitterness/aftertaste is reduced. Removing the wax layer of stems would not be effective from a sheet materials subjective standpoint.

Final Marlboro blend subjective results to evaluate ART Pilot Plant stem utilization in sheet materials was completed. Pilot RL containing 3.6% ART stems in the feedstock is detectable in Marlboro blends, whereas 1.8% incorporation in RL appears acceptable. BL Plant RCB containing 22% ART stems is detectable; a psuedo 16% level (a blend of RCB sheets containing 11% and 22% ART stems) is not detectable. The combination of 1.8% in RL and 16% in RCB gave detectable differences; blends with a combination 1.8% ART stems in RL and 11% in RCB appear acceptable.

Stems from the Bermuda Hundred production facility were incorporated in BL Plant RCB at 11% and 16% of the feedstock (replacing burley stems). Screening of handmade 100% cigarettes indicates an improvement versus ART Pilot Plant stems incorporated at the same level; blended cigarettes have been completed and submitted for subjective testing.

Replacing BL Plant burley stems with Bermuda stems will require increased burley stem usage at Park 500 to maintain durations. Pilot RL sheets were made with a range of burley stem contents; screening of handmade 100% cigarettes indicates that Park 500 would be limited to 34% burley stems in the feedstocks ( $\Delta$ +2.5% over present).

The 34% burley stem blend was used to produce pilot RL sheets incorporating 1.8% and 3.6% Bermuda stems. These have also indicated a subjective improvement (in handmade 100% cigarettes) versus comparable inclusion levels of ART Pilot Plant stems; blended cigarettes are in progress. These same burley stem/Bermuda stem combinations are intended for Park 500 trials, pending acceptable subjective results with the pilot sheets.

Marlboro models containing blend combinations of BL Plant RCB and pilot RL, both made with Bermuda stems, are also in progress. Based on the improved subjective response with Bermuda stem incorporation, this test grid is being expanded to attempt higher overall blend utilization levels than were indicated as feasible with ART Pilot Plant stem incorporation.

Bermuda filler was incorporated as 5% of RCB feedstock (replacing CTRL) to evaluate this as an outlet for Bermuda and MC ART OTM. There were no subjective differences detectable in handmade 100% cigarettes; evaluation of machine-made blended cigarettes is in progress. Bermuda filler has also been incorporated in pilot RL at 5% and 10% of the feedstock (replacing scraps) to determine any subjective effects.

2. Humectants - Cigarettes were made to determine the optimum isosweet level for replacement of humectants in the strip casings for PG/glycerine-free blends, and have been submitted for analyticals and subjective screening.

C. Plans:

1. Complete blended cigarette screening of pilot RL and BL Plant RCB sheets made with Bermuda stems.
2. Conduct Park 500 trials incorporating Bermuda stems in RL.

II. SUBJECTIVE MODIFICATION OF RL

A. Objective: Improve or modify the subjective character of RL.

B. Results:

1. Liquid Flavors - Larger quantities (suitable for plant trials) of the Takasago flavor were received and subjectively screened (sprayed on pilot 150B made without dry flavors). The Takasago materials continue to be analytically and subjectively consistent, and are subjectively preferred. Chart has corrected their roasting problem and reserved a trial quantity lot; a sample was screened and judged comparable to past "acceptable" Chart flavors. The large lots from both vendors are intended for compounding (sugar adjustment) in the Flavor Center and evaluation in pilot 150B. Combinations of the two flavors will subsequently be evaluated; selected combinations will be used for sheet plant trials. Flavor Development plans to visit both vendors in July and provide them with flavor specifications.

C. Plans:

1. Produce pilot 150B sheets to evaluate compounded liquid flavors.